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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,804	10/21/2003	Hiroshi Hashi	03632/LH	6664
1933	7590	02/18/2005	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 767 THIRD AVENUE 25TH FLOOR NEW YORK, NY 10017-2023			HSIEH, SHIH WEN	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/691,804	<b>Applicant(s)</b> HASHI ET AL.	
	<b>Examiner</b> Shih-wen Hsieh	<b>Art Unit</b> 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10-21-03</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. PCT/JP02/05254, filed on May 30, 2002. However, a copy of the priority paper has not received by this office yet.

### *Claim Objections*

2. Claims 1-4 and 7 are objected to because of the following informalities:

In regard to:

Claim 1:

Line 8, please change "the ink discharge direction" into "**an** ink discharge direction" to correct a minor lack of antecedent basis problem.

Claim 2:

Line 5, please change "the opposite side" into "**an** opposite side" to correct a minor lack of antecedent basis problem.

Claim 3:

Line 6, please change "on the surface of a cap member" into "on **a** surface of a cap member" to correct a minor lack of antecedent basis problem.

Claim 4:

Lines 3 and 4, please change "the central portion" and "the longitudinal direction" into "**a** central portion" and "**a** longitudinal direction" respectively to correct a minor lack of antecedent basis problem.

Claim 7:

Page 4, line 3, please change "the surface of the cap" into "**a** surface of the cap" to correct a minor lack of antecedent basis problem.

Page 4, line 6, please change "the lowest position" into "**a** lowest position" to correct a minor lack of antecedent basis problem. ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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4. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Uchida (US Pat. No. 6,663,218 B2).

In regard to:

Claim 1:

Uchida teaches:

A recovery device for an ink jet printer, comprising:

wiping means (10A and 10B, fig. 9) that wipes each of ink discharge surfaces of print heads (1A and 1B, figs. 9 and 10) that discharge ink, refer to col. 9, lines 8-19; and

cap means (4A and 4B, fig. 9) that caps each of the discharge surfaces, refer to col. 7, lines 44-65,

wherein the recovery device is disposed so that the wiping means and the cap means at least partially overlap each other, as seen from the ink discharge direction of the print head, refer to col. 7, line 66 to col. 8, line 5.

Claim 2:

Uchida further teaches:

wherein the cap means comprises a cap section (4A or 4B) that caps discharge surface of the print head (1A or 1B, fig. 7), and an ink receiving section disposed on the opposite side the cap and having an ink absorbing member (9A or 9B, fig. 7) for receiving ink discharged by the print head for recovery processing, refer to col. 7, lines 61-65 and col. 8, lines 40-56;

when the cap means caps the ink discharge surface of the print head, the cap means is configured so that the cap section located at a capping position opposed to

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the discharge surface of the print head, refer to fig. 6 for a un-capped condition and fig. 7 for a capped condition; and

when the ink discharge surface is wiped by the wiping means, the cap means is configured so that the cap section is located at retreat position spaced apart from the ink discharge surface, and that the receiving section is opposed to the ink discharge surface, refer to figs. 8 and 9 and col. 9, line 53 to col. 10, line 8.

Claim 3:

Uchida further teaches:

A recovery device for an ink jet printer, comprising:

a cap member (4A or 4B, fig. 8) capable of covering an ink discharge surface of print head that discharges ink in a downward direction,

wherein, in the cap member, an ink suction hole (the hole, which is not numbered in the cap where a suction tube 6A or 6B is connected to) for sucking ink discharged on the surface of the cap member opposite to the print-head disposed in equal position with respect to a nozzle area of the print head, refer to fig. 8 for the equal position with respect to a nozzle area of the print head and col. 8, line 57 to col. 9, line 1.

Claim 4:

The recovery device for an ink jet printer according to Claim 3, wherein the ink suction hole is disposed substantially the central portion of the nozzle area of the print head in the longitudinal direction.

Rejection:

This claim is rejected on the basis as set forth for claim 3 discussed above. Because the recitation of "wherein the ink suction hole is disposed substantially the central portion of the nozzle area of the print head in the longitudinal direction" means the same as "disposed in equal position with respect to a nozzle area of the print head" recited in claim 3.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida.

In regard to:

Claim 5:

The device of Uchida DIFFERS from claim 5 in that it does not teach:

wherein a plurality of the ink suction holes is arranged along the longitudinal direction of the nozzle area of the print head.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to design more than one ink suction hole in the cap, since it has been held that mere duplication of an essential working parts of a device involves only routine skill in the art, refer to MPEP 2144.04 VI B.

Claim 6:

The device of Uchida DIFFERS from claim 6 in that it does not teach:

wherein the ink suction hole has an oblong hole shape extending along the longitudinal direction of the nozzle area of the print head.

Therefore it would have been an obvious matter of design choice to select a shape of the suction hole, since such a selection would have involved a mere change in the shape of a component, i.e., the shape of the suction hole. A change of the shape of a component is generally recognized as being within the level of ordinary skill in the art, refer to MPEP 2144.04 IV B.



7. Claims 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida in view of Hara et al. (US Pat. No. 6,481,826 B1).

In regard to:

Claim 7:

A recovery device for an ink printer, comprising:

a cap capable of covering an ink discharge surface of print head that discharges ink in a downward direction,

wherein the cap has an ink suction hole for sucking discharged or sucked on the surface of the cap opposite to the print head; and

wherein an inclined surface such that the ink suction hole portion assumes the lowest position on the surface of the cap opposed to the print head during at least one period of time in a sucking process by the cap, is formed on the surface of the cap opposed to the head.

Rejection:

This claim is rejected on the basis as set forth for claim 3 discussed above.

**Except:**

wherein an inclined surface such that the ink suction hole portion assumes the lowest position on the surface of the cap opposed to the print head during at least one period of time in a sucking process by the cap, is formed on the surface of the cap opposed to the head.

Hara et al. teach in their figs. 3 and 4 a capping device having a pair of slopes (27a and 27b) formed inside the cap, a ink discharge hole (24), which corresponds to

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the suction hole in the instant application, is disposed at the bottom of the slopes, refer to col. 11, lines 5-45.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Uchida to include slope surface formed inside the cap as taught by Hara et al. for the purpose of providing a capillary action, rendered by the valley line (28), to the remaining ink along the bottom of the cap and leading the remaining ink toward the ink discharge port and out of the cap.

Claim 8:

The device of Uchida as modified in view of Hara et al. DIFFERS from claim 8 in that it does not teach:

wherein the print head of the jet printer is a fixed type print head that does not move in a horizontal direction at least during printing.

A fixed type of print head, which is generally called a Full-width array (FWA) or Page-width array (PWA) is well known in the ink jet field. This type of print head remains stationary when making a printing. Uchida and Hara et al. teach a reciprocating type of print head, in which the head moves along a so-called main scanning direction back-and-forth in order to make a printing. These two types of head are generally seen in the ink jet printing technologies, refer to MPEP 2144.03, In re Malcolm, 129 F.2d 529, 54 USPQ 235 (CCPA 1942).

Therefore it would have been an obvious matter to use a fixed type of print head in lieu of a reciprocating type of head, since each type of head performing equally in forming an image on a printing medium.

Claim 9:

The recovery device for an ink jet printer according to claim 7, wherein, in a state where the cap has capped the ink discharge surface of the print head, the cap has an inclination formed at least one portion of the surface thereof opposed to the print head so that the ink suction hole assumes the lowest position on the surface of the cap opposed to the print head.

Rejection:

Rejected on the basis as set forth for claim 7 discussed above.

Claim 10:

The recovery device for an ink printer according to claim 7, wherein, in a state where the cap retreated at a retreat position with respect to the print head, an inclined surface that is inclined with respect to the ink suction hole, is formed on the surface of the cap opposed to the print head.

Rejection:

Rejected on the basis as set forth for claim 7 discussed above.

Claim 11:

The recovery device for an ink jet printer according to claim 7, wherein each of the inclined surfaces of the respective one of the caps is formed by deforming the surface of the cap opposed to the print head.

Rejection:

Hara et al. teach inclined surfaces (27a and 27b) without further specifying how the inclination is formed. However, a deformation of a continuous flat plate and forming a V-shape surface as that in Hara et al.'s fig. 4 is one of the method.

Claim 12:

The recovery device for an ink jet printer according to claim 7, wherein, in the cap, at least one portion within the cap inclined so that the ink suction hole assumes the lowest position.

Rejection:

Rejected on the basis as set forth for claim 7 discussed above.

Claim 13:

The recovery device for an ink jet printer according to claim 8, wherein, in a state where the cap has capped the ink discharge surface of the print head, the cap has an inclination formed at at least one portion of the surface thereof opposed to the print head so that the ink suction hole assumes the lowest position on the surface of the cap opposed to the print head.

Rejection:

Rejected on the basis as set forth for claim 9 discussed above.

Claim 14:

The recovery device for an ink jet printer according to claim 8, wherein, in a state where the cap retreated at a retreat position with respect the print head, an inclined

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surface that inclined with respect to the ink suction hole, is formed on the surface of the cap opposed to the print head.

Rejection:

Rejected on the basis as set forth for claim 10 discussed above.

Claim 15:

The recovery device for an ink jet printer according to claim 8, wherein each of the inclined surfaces of the respective one of the caps is formed by deforming the surface of the cap opposed to the print head.

Rejection:

Rejected on the basis as set forth for claim 11 discussed above.

Claim 16:

The recovery device for an ink jet printer according to claim 8, wherein, in the cap, at least one portion within the cap is inclined so that the ink suction hole assumes the lowest position.

Rejection:

Rejected on the basis as set forth for claim 7 discussed above.

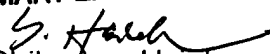
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**SHIH-WEN HSIEH**  
**PRIMARY EXAMINER**

  
Shih-wen Hsieh  
Primary Examiner  
Art Unit 2861

SWH

  
Feb. 14, 2005